Geography of Knowledge Production in European Urban Studies

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Abstract: The production of scientific knowledge in urban studies is not evenly distributed. Studies produced in some academic centres are cited more frequently than others and have a larger impact on the academic community. This article traces the spatial concentration of urban studies in European countries over the last decade. On a theoretical level, it refers to the theory of dependent development, distinguishing areas of global core, periphery and semi-periphery, and applying this theory to the production of academic knowledge.

Based on the bibliometric data of articles from selected renowned international journals, the article constructs a synthetic index of the centrality of academic knowledge production in urban studies, developed in the academic centres of individual countries. In particular, it draws attention to the peripheral or semi-peripheral position of almost all Central and Eastern European countries.

Keywords: urban studies; academic knowledge production; centre–periphery relations; Europe

The geographical distribution of academic knowledge production across the world is uneven. This statement refers especially to research that has the greatest impact on other scientists – namely, that which is most widely read and cited. This diversity takes a different shape for each academic discipline. In this article, we look at the spatial variation in the production of influential research in urban studies.

The definition of urban studies is not the subject of our detailed consideration. For the purpose of this article, we understand urban studies to mean the research field whose main area of interest is the functioning and development of cities; the encompassing architectural and urban planning issues; and the social, economic and political dimensions. Thus, urban studies draw on theoretical concepts and research tools from various disciplines: economics; sociology; political science; anthropology; geography; urban planning and history. At the same time, they are not in the mainstream of any of these disciplines, being a peripheral research field of each of them. This constitutes the strength and weakness of urban studies. On the one hand, the field of urban studies allows for an interdisciplinary perspective but, at the same time, the location of urban studies outside the centre of interest of the most important scientific disciplines limits the possibilities of publication in the most prestigious academic journals, which leads to, for example, difficulties in accessing financial support for research projects.

This article consists of three main parts. In the first, we present a theoretical framework for studying the geography of scientific knowledge production. In the second, we

discuss the scope and methodology of the empirical study and, in the third, we present the results of the empirical analysis of the collected research material.

The aim of the analysis can be described as diagnostic – using the categories of centre and periphery, we want to describe the diversity of scientific knowledge production in the field of urban studies in European countries. We are particularly interested in the position of research conducted in academic centres in Central and Eastern Europe. We expect that, in a similar vein to findings in other fields of scientific knowledge (Maisonobe et al., 2017), in the case of urban studies, the countries of Western Europe, especially North-Western Europe, are relatively closest to the global core of knowledge production, while the countries of Central and Eastern Europe occupy peripheral or semi-peripheral positions. In the latter group, we expect a relatively better (semi-peripheral) position for the countries that joined the European Union in or after 2004, and a more peripheral position for the remaining Central and Eastern European countries. However, while most of the earlier studies of centrality of academic research were covering a broad range of various disciplines, with potentially very different geographical patterns of knowledge production, our study focuses on a much narrower and more coherent area of studies.

Conceptual frame – centrality versus peripherality of the position of knowledge production on the global map[1]

Despite the de-concentration processes observed in the geography of knowledge production over the last few decades (Choi, 2012; Maisonobe et al., 2017), a disproportionally large number of the most influential publications is still produced in a relatively small number of countries (and respective universities). This variation can be interpreted in the light of dependency theory (Prebisch, 1959; Wallerstein, 1974). It allows a distinction to be made between the global core (mostly USA and part of Western Europe), semi-peripheries and periphery.

Applying this concept to academic research is not a totally new idea; it has already been done in some earlier studies (Luczaj & Bahna, 2020; Schubert & Sooryamoorthy, 2010; Swianiewicz & Kurniewicz, 2019; Zarycki, 2013). In relation to Europe, some of the earlier studies – not necessarily directly referring to this theoretical concept – have already defined the United Kingdom and some of the North European countries as being part of the global core of knowledge production, while Central and Eastern Europe are part of the periphery or semi-periphery of academic activity (Mataković et al., 2013; Pajić, 2015). It is meaningful that the academic institutions that are often classified at the top of various rankings are usually located in countries that are the most

1   An earlier version of this conceptual frame was already presented in Swianiewicz (2023).

developed economically. Their financial situation allows for more generous financing of research (affecting not only the salaries of academics but also data collection and the equipment necessary for knowledge production), and higher expenditure on Research and Development.

The concept of centrality of studies conducted in different countries is related to two main dimensions:

(i)   visibility of publications,

(ii)   impact on other researchers, both in their own country and abroad.

In economic life, according to the dependent development theory, developed countries have the benefit of unequal power relations and impose a model of economic circulation that best fits their interests, placing peripheries into the situation of economic dependency (Prebisch, 1959; Wallerstein, 1974). Similarly, applying the concept to the geography of knowledge production we expect that a *centre* (in the case of modern social sciences, this is located mainly in universities in the United States and, to a certain extent, in Britain and some other Western European countries also) *imposes the current scientific paradigm* (in the sense discussed in Kuhn (1962)). This paradigm includes, in particular, a set of the most important research questions and applicable methodological correctness patterns. The new ideas are created in the centre, penetrating later into the academic life of the periphery. It is almost impossible to distinguish to what extent academic institutions from the centre are more innovative and to what extent the ideas produced there just gain larger visibility due to better access to modes of academic global communication. Both factors probably play a role. The domination of the centre includes the ownership of the most reputable academic journals and being in the position to be able to define the interesting topics of research. Most of the theories and synthesising articles are generated in the centre, while scholars in more peripheral academic institutions may provide their input in terms of case studies, and by testing the theories imposed by the centre.

Connell et al. (2018) characterise the typical position of scholars from the periphery noting that they look outward to the metropole as the source of their concepts, methods, recognition, etc. Even if peripheral institutions cooperate with their metropolitan counterparts, the nature of this partnership is asymmetrical. International scholars are often contractors with limited impact on methodological or theoretical approaches.

Schubert and Sooryamoorthy (2010) study the central or peripheral position in academia through patterns of co-publishing joint articles. For scholars from the periphery, it is more valuable to find co-authors from a country closer to the academic core.[2] As one of the interviewed authors (quoted in their article) says: "you do not play tennis

2   This opinion is confirmed in interviews conducted by the authors of this article with selected scholars in eight European countries. Seeking cooperation with academics from stronger (closer to the global core) academic institutions, which may increase the chances of being published in reputable journals, is one of the publication strategies most often mentioned.

with someone who is a much *weaker* player" (Schubert & Sooryamoorthy, 2010, p. 197). Analysing joint publications, we can identify a hierarchy of peripherality, which also includes countries in a semi-peripheral position. Luczaj and Bahna (2020) study the direction of migration of scholars looking for jobs at universities in other countries. They note a pattern of hierarchy, in which universities mostly attract academics from more peripheral regions.

In this article, we suggest using additional – more geographical – indicators of peripheral position, which are especially relevant for social sciences (such as local government studies). The scholar from the centre may conduct empirical research in the peripheral region and publish it in a renowned international journal. But the opposite direction is next to impossible: even if a scholar from a peripheral region conducts research in the core country, it may be published in a local journal (usually in the local language), but not in an international one with a high impact factor. Therefore, by studying the institutional origin of scholars and the geographical area of their studies, one may re-trace the hierarchy of centrality, also identifying countries in a semi-peripheral position.

The most important features of centre and periphery are summarised in table 1.

Table 1. The main characteristics of "centre" and "periphery" in academic circulation

LOCATION IN ACADEMIC CIRCULATION	
Centre	Periphery
• Imposes the current scientific paradigm • Decides the most interesting topics and issues raised in research (and, therefore, publications) • Creates the most important research questions and applicable methodological correctness patterns • Generates the theories and synthesis of empirical data analyses • Owns the most reputable international journals • Imposes the performance indicators as the main criteria for the assessment of individual scholars as well as universities (and databases of articles and citations) • May conduct empirical studies in the periphery and publish them in reputable academic journals	• Follows (imitators) or ignores (separatists) the current scientific paradigm proposed by the "centre", the proposed topics of research, research questions and methodology • Provides data and case studies instead of generating conceptual frameworks and theories • Owns the journals of local/national scope published in the national language • Seeks academic collaborators (and co-authors of publications) in more central regions • If empirical study is conducted in the central region, the results are published in local journals (usually in local languages).

Source: Authors' elaboration

The Anglo-Saxon hegemony (mentioned above) in scientific research has been convincingly documented by, for example, Aalbers and Rossi (2006) and Batty (2003), the latter noting that among the 20 universities whose research is the most frequently

cited, 18 are from the US and two from British institutions. Newer studies (e.g. Maison-obe et al., 2017) confirm this domination, even if its magnitude has been diminishing in recent years.

Cole (1979), quoting Zuckerman and Merton (1971), notes that in social science, access from the periphery is more difficult than in the case of natural or life sciences. The reason, he indicates, is related to the lower number of accepted, general theories in social sciences, which means that not only methodological correctness and innovation but also reputation matter more for access to the most reputable journals. Cole's analysis focuses mainly on sociology. In our case, we discuss urban studies, which puts us in a position of *double peripherality* (Swianiewicz & Kurniewicz (2019) identify similar issues concerning local government studies). One of these results from the (semi-) peripheral position of academic institutions in some of countries in relation to the centre (core) of European and world academic research. The second aspect is related to the peripherality of urban studies in relation to at least some of the disciplines in which they are conducted (geography, political sciences, economics, sociology, etc.). This makes urban studies especially interesting for understanding the mechanisms of academic knowledge circulation and visibility. We claim that due to the dual peripherality of local government studies, the situation described by Cole for sociology and other social sciences is even more difficult for scholars working in institutions that are not located in the global core. This double peripheral position has consequences related to, for example, access to databases of a comparative nature, which is more difficult than in some other areas of research related to the mainstream of mother disciplines. Urban studies rely more heavily on primary data collected by research teams. As a result, the entry costs to the centre of a scientific sub-discipline are higher; they involve not only the author's methodological refinement but also access to the social network of academics who gather data. They also need to convince the editors of the most prestigious journals that an article referring to a peripheral field of urban studies is worth publishing.

Scope and method of the study

As mentioned in the introduction to this article, our aim is to diagnose the geography of knowledge production in urban studies in Europe. We want to define where the European core is, and where the peripheries are in this respect. In measuring centrality, we refer to the visibility of research conducted in each country and to the impact on other researchers.

The study is based on bibliometric data relating to the number of articles published in reputable international journals and the number of citations of these articles recorded in the Scopus database (accessed in January 2021). The geographical coverage of the

study includes all European countries, excluding micro-states with less than 100,000 inhabitants, and excluding English-speaking countries: Ireland and the United Kingdom of Great Britain and Northern Ireland. When defining the European character of the countries included, we took into account their membership of the Council of Europe; hence, the inclusion in the study of Armenia, Azerbaijan and Georgia, which in most delimitations of the geographical borders of the continents are located outside Europe. Additional justification is required for the exclusion of Ireland and the UK. The analysed journals are published in English. For many authors, language is one of the barriers to access – they must proofread or translate their papers before submitting them to editors. For those who have English as their mother tongue, this barrier does not exist. Hence, articles by British and Irish authors may be overrepresented due to the language and place of publication of many journals. Their frequency would therefore also be due to factors other than the assessment of the quality of submitted manuscripts by journal reviewers and overall research activity. An additional argument was the fact that two of the selected journals are published by universities which are located in the UK. One may expect that this may result in the overrepresentation of articles written by British authors, which might be related to the history of the journals as well as the institutional setting, and not necessarily due to the general significance of findings presented in those articles.

The starting point of the analysis was a selection of journals focusing on urban studies in various senses and who, at the same time, enjoy high reputations, as expressed by the Impact Factor (IF at least close to 2).[3] In particular, we searched for all journals meeting this condition that have the words "urban", "city" or "cities" in their name (in total, we found 21 such journals). We omitted journals in which urban studies play a prominent role, but which focus on the regional as well as the urban level. For this reason, for example, the International Journal of Urban and Regional Research, and European Urban and Regional Studies have been omitted. We are aware that some of the articles published in those journals might be important for urban studies, but taking them into account would require the extremely time-consuming separation of publications focused indeed on urban issues from those concentrated on regional studies. We also did not include journals that focus only on a narrow range of topics related to cities (e.g. *Computers, Environment and Urban Systems*, *Urban Forestry* and *Urban Greening and Urban Ecosystems*). In our selection, however, we gave preference to journals published in Europe, in the expectation that European authors would be most likely to

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3   In 2019, the Impact Factor of the Local Government Studies journal, which was included in the analyses, was 1.909; for the other journals, it exceeded 2. The use of IF as an indicator of a journal's reputation can be debated. We are using a measure that is sometimes criticised and, in addition, may be seen as imposed by the "global centre" of scientific knowledge production. Its great advantage, however, is its simplicity, and its fairly widespread use in scientific circles around the world. The only alternative that comes to mind is CiteScore – a measure introduced by the Scopus system – the use of which, however, would not fundamentally change our results. Moreover, regardless of possible criticisms of the current situation, visibility in the academic world (which we wish to characterise) currently depends precisely on the standards imposed by the "global core" of knowledge production.

publish there, and therefore their content would best illustrate the diversity of the studied phenomenon. That was the motivation beyond inclusion of *Urban Research and Practice* and *Local Government Studies* in our list.

Finally, all articles published between 2010 and 2020 by the following journals were considered:

– *Cities*,

– *Environment and Planning C: Politics and Space* (until 2017 the journal was subtitled *Government and Policy*),

– *Local Government Studies*,[4]

– *Urban Affairs Review*,

– *Urban Research and Practice*,

– *Urban Studies*.

The selection of journals is to some extent subjective, but it is unlikely that adding one or two additional titles would change the general picture of our findings.

We took into account all articles that appeared in the selected journals during the period researched. From this total, however, we had to subtract articles whose authors were all from outside Europe (4,222), articles written by UK or Irish authors in collaboration with non-European authors (219), and those whose authors were solely from Ireland (38) or the UK (865). In the end, there were 2,075 articles in the database that were written by authors from any other European country (at least one of the authors had to be employed at a European university). The highest number of such articles came from *Cities* (634) and *Urban Studies* (576), and the lowest from *Urban Affairs Review* (65) and *Urban Research and Practice* (187).

Table 2 illustrates the proportion of the articles published in each journal that were written by European authors. As can be seen, the most "Eurocentric" of the included journals is *Urban Research and Practice* (published in England by the European Urban Research Association), and the least "Eurocentric" is *Urban Affairs Review*.

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4   At a first glance one may think that we should eliminate that journal for similar reasons, for which we did not include journals referring to "regional" issues in their title. Apart from articles on urban issues, studies of local government may also include studies of rural areas. But analysis of content of volumes published in *Local Government Studies* clearly indicates the dominance of urban issues, and only the marginal presence of articles which would be beyond scope of our interest. Taking also into account the European origin of the journal, we have decided to include it in our empirical analysis.

Table 2. Origin of authors of articles in the selected journals (percentage of total articles)

Journal	At least one author from Europe (except for UK and Ireland)	At least one author from UK or Ireland (no authors from other European countries)	All authors from outside Europe
Cities	30,3	23,2	46,4
Environment & Planning: C	38,2	34,8	27,0
Local Government Studies	40,8	39,4	19,9
Urban Affairs Review	14,5	2,3	83,6
Urban Research & Practice	66,1	12,1	21,8
Urban Studies	27,7	23,7	48,6

Source: Based on authors' calculations

The study results in a ranking of the centrality (versus peripherality) of urban studies research conducted in a country.[5] Its construction takes into account two aspects of centrality in research: visibility and influence on other researchers. In our study, the centrality index was calculated based on the values of three variables:

– number of articles published by researchers from a given country in our selected journals (this indicator refers to the visibility of research conducted in particular countries),

– number of citations of these articles according to the Scopus database,

– Hirsch index of authors from a given country calculated according to a database listing articles in selected journals (the second and third indicators mentioned here refer to the impact of research conducted in a given country on other researchers).

Since there are two variables referring to the number of citations, this means that our index is more influenced by the "impact" of articles on other researchers than by the mere fact of the appearance in the selected journals.

However, it should also be taken into account that the values of these variables are influenced not only by the centrality of a country's location on the map of scientific knowledge production in the researched field, but also by the size of the country, measured by the number of inhabitants (and thus also by the number of universities and researchers). Therefore, the number of publications or citations from a small country (e.g. Estonia with less than 2 million inhabitants) should not be directly compared with the values for the same variables in a country many times larger (e.g. Germany with more than 80 million inhabitants). However, expressing these values as, for example, per millions of inhabitants seems too simple a solution. It could lead to distorted results based on the achievements of only one very active researcher in a small country.

5   If an article had more than one author, we assigned it to all countries that were represented by the team of authors.

The standardisation method used in this article follows that of SPQL (Scientific Performance Quality Level), used by Babić et al. (2016). The standardisation includes the following steps: (i) based on the collected data, a regression equation between the absolute value of the indicator and the number of inhabitants of the country, treated as an independent variable, is calculated; (ii) based on the equation, the expected values of the indicators are calculated. If the collected empirical values are higher than the expected value, this indicates a more central location of an academic institution in a given country; (iii) the residuals from the regression, namely the differences between the expected and observed values of the examined variables, are used to construct a synthetic indicator.

In the next stage all variables are standardised, using the z-score method, i.e.:

$Z(i,j) = (x(i,j) - mean(i))/ D(i)$, where: $Z(I,j)$ – standardised value of variable i for country j;

$X(i,j)$ – original value of variable i for country j

$Mean(i)$ – mean value of variable i

$D(i)$ – standard deviation of variable i.

The z-score method allows us to obtain variables whose mean is 0 and standard deviation is 1.

These three standardised sub-variables are highly correlated with each other (detailed information on this is given in the part of the article discussing the results of the study), but the correlations are not so high that their combined consideration would not bring us additional, valuable information on the spatial differentiation of knowledge production in urban studies.

In the final stage of calculation, the synthetic index is the sum of the standardised values of the individual variables. As a result of the procedure used, the centrality index takes on positive values for countries where the centrality of research in urban studies is higher than the European average, and negative values for countries showing more global (European) periphery characteristics in knowledge production.

Empirical findings

As we have already mentioned in the methodological section, 2,075 articles were included in our database. In the case of four countries (Armenia, Montenegro, Moldova, Ukraine), the database did not include any study prepared by authors from these countries. The highest number of articles in the analysed journals was published by authors

from the Netherlands (348) and Spain (206). Poland was ranked 11th in this ranking (60 articles), as the first of the countries of Central and Eastern Europe (see also Table 3).

Table 3. Countries, authors from which published over 50 articles during 2010–2020 period in the analysed journals

Country of author	Number of published articles
Netherlands	348
Spain	206
Germany	197
Italy	174
Sweden	127
France	120
Denmark	74
Norway	74
Belgium	65
Switzerland	63
Poland	60
Finland	52
Portugal	52

Source: Based on authors' calculations

A significant proportion of the articles (854, i.e. more than 40% of the total) were not cited at all, or their number of citations did not exceed 5 (see Figure 1). Thus, they have not been noticed at all or hardly at all (at least for the time being), and their impact on the development of further research can be considered marginal at best. At the opposite end of the spectrum, there are 101 articles which, according to the Scopus database, have been cited more than 60 times, including 30 articles with more than 100 citations.

Table 4 provides information on the most cited articles according to the Scopus database and covers 10 publications with more than 150 citations. As many as five of them appeared in the *Cities* journal and another three in *Urban Studies*. The most cited article by a Central and Eastern European researcher is the (co-)publication by Ludek Sykora from the Czech Republic "Multiple transformations: conceptualising the post-communist urban transition", which appeared in *Urban Studies* (221 citations).
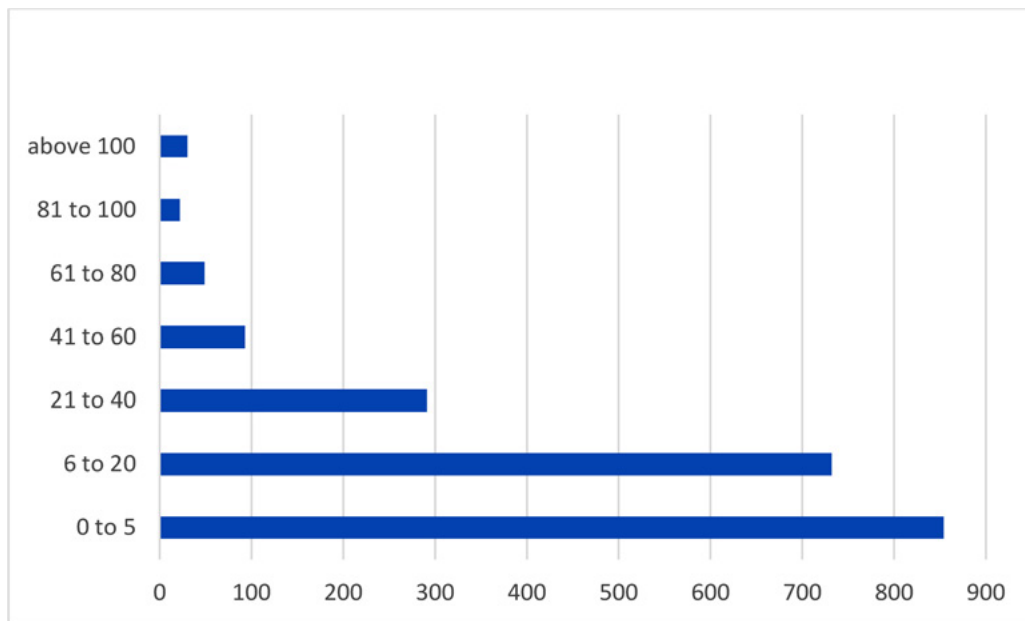
Figure 1. Number of articles with various number of citations in Scopus database. Source: Based on authors' calculations

Table 4. Articles with over 150 citiations in Scopus database

Authors	Country	Year	Title	Journal	Number of citations
Neirotti P., De Marco A., Cagliano A.C., Mangano G., Scorrano F.	Italy	2014	Current trends in smart city initiatives: Some stylised facts	*Cities*	905
Vanolo A.	Italy	2014	Smartmentality: The Smart City as Disciplinary Strategy	*Urban Studies*	470
Ahvenniemi H., Huovila A., Pinto-Seppä I., Airaksinen M.	Finland	2017	What are the differences between sustainable and smart cities?	*Cities*	331
Angelidou M.	Greece	2014	Smart city policies: A spatial approach	*Cities*	324
Angelidou M.	Grece	2015	Smart cities: A conjuncture of four forces	*Cities*	272
Amundsen H., Berglund F., Westskogh H.	Norway	2010	Overcoming barriers to climate change adaptation-a question of multilevel governance?	*Environment and Planning C: Politics and Space*	259
Sýkora L., Bouza-rovski S.	Czech Rep., United Kingdom	2012	Multiple transformations: Conceptualising the post-communist urban transition	*Urban Studies*	221

Chorianopoulos I., Pagonis T., Koukoulas S., Drymoniti S.	Greece	2010	Planning, competitiveness and sprawl in the Mediterranean city: The case of Athens	*Cities*	183
Burger M., Meijers E	Nether-lands	2013	Form follows function? Linking morphological and functional polycentricity	*Urban Studies*	175
Michels A., de Graaf L.	Nether-lands	2010	Examining citizen participation: Local participatory policy making and democracy	*Local Government Studies*	161

Source: Authors' calculations, based on Scopus database

The distribution of these more frequently cited articles among the authors' countries of affiliation is indirectly illustrated by the chart in Figure 2, which shows the Hirsch index values for individual countries. The highest value is for the Netherlands, followed by Spain, Italy, Sweden, Germany and France. As can be seen, both northern (Nether-lands, Sweden, Germany) and southern (Spain, Italy) European countries are at the top of the list.
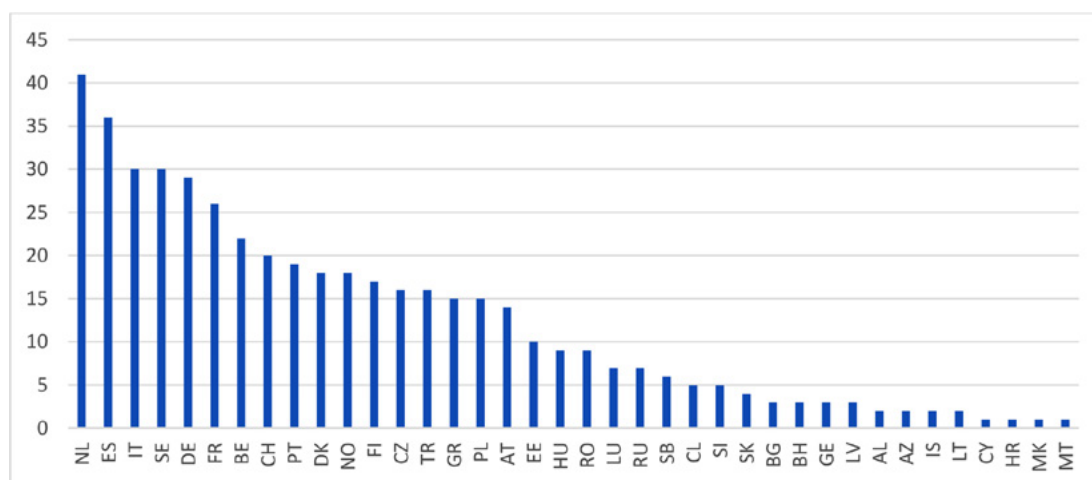
Figure 2. Hirsh index and country of authors. Source: Authors' calculations based on Scopus database

The countries of Central and Eastern Europe, however, fall in the second part of the Hirsch index ranking. The highest index value of all the countries of the Eastern part of the continent is for the Czech Republic (16), followed by Poland (index H = 15).

The standardised variables used in the construction of the synthetic index are high-ly correlated with each other (at a level of about 0.9), but the position of some coun-tries in relation to individual variables is significantly different, so the combined use of all three indicators brings us additional valuable information. Although the Netherlands has the highest values for all three indicators, Greece, for example, is noteworthy be-

cause it ranks 15th in terms of the number of articles, but 7th in terms of the number of citations. The reverse is true for Poland, which is 13th in terms of the number of articles but only 18th in terms of citations. The biggest difference in position on the scale of individual indicators is recorded for Romania, which is only 34th in terms of the number of articles published, but 20th in terms of the H index value.
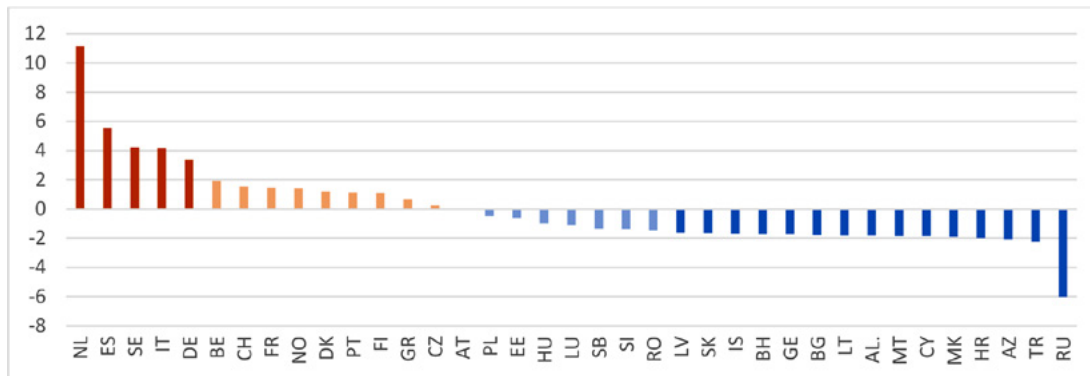

Figure 3. Centrality index of knowledge production in urban studies and country of authors.
Note: Among countries with index value over 0 the darker shade marks central (core) countries and lighter shade – partially central countries. Similarly, among countries with index value below 0 lighter shade means partially peripheral and darker shade – peripheral countries. Source: Based on authors' calculations

Figure 3 shows the ranking of the centrality index, which is a summary of the three variables, calculated as described in the methodological part of this article. Figure 4 shows the spatial distribution of countries clustered in the different classes of centrality of urban studies.

We can make the distinction between core and peripheral countries (with respect to the share of knowledge production in urban studies) based on the mean value of the index. Positive values indicate centrality and negative values indicate peripherality in urban studies. In addition, referring to the value of the index, we can distinguish two subgroups within each group: definitely central (core) and partly central (peripheral),[6] the latter being characterised by centrality indices close to 0 and therefore close to the average value for the whole set of European countries studied. The boundary thresholds between the categories "central" and "semi-central" and "peripheral" and "semi-peripheral" are conventionally defined at the points of a clear jump in the value of the index.

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6   In the terminology we have used, we avoid the term "semi-periphery", which according to Wallerstein's theory is relative – a semi-peripheral area is a periphery in relation to the global centre, but acts as a centre in relation to more peripheral areas. The scope of our study does not allow for such a relational definition. When talking about partly central and partly peripheral countries, we are referring only to the value of the centrality index of urban studies research, which has the character of a linear variable.
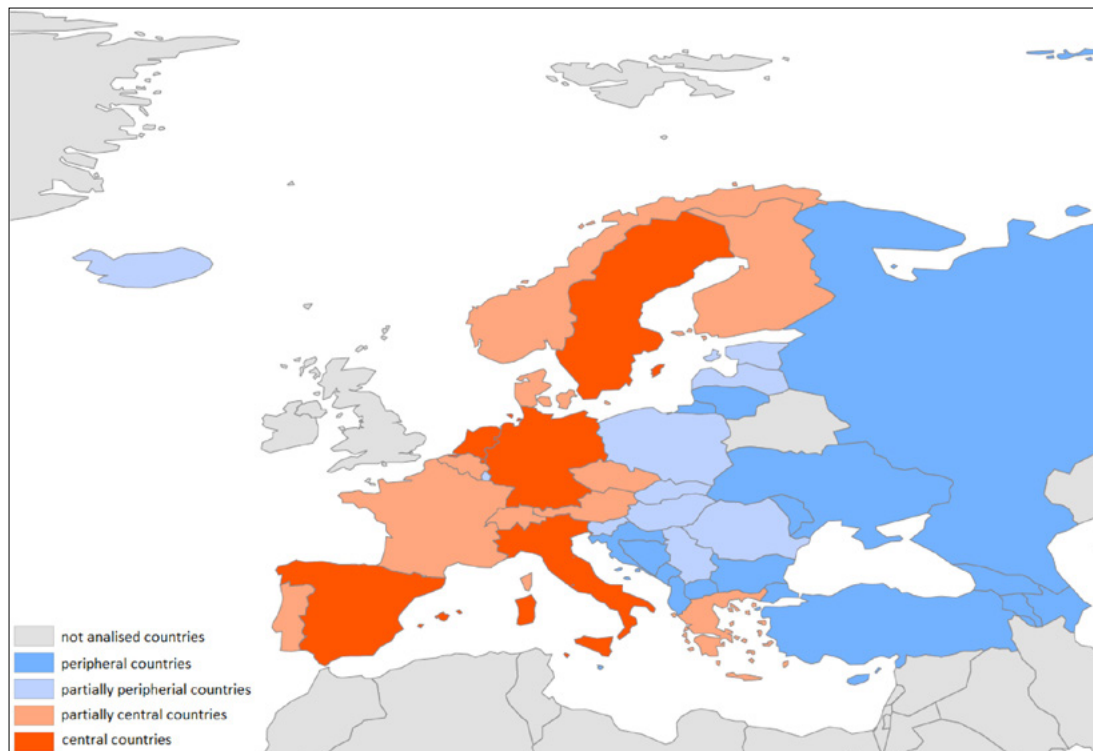
Figure 4. Centrality index of urban studies in European countries. Source: Based on authors' calculations

Thus, central countries include the Netherlands (for which the value of the synthetic indicator strongly deviates from the other countries), Spain, Sweden, Italy and Germany, while partially central countries include Belgium, Switzerland, France, Norway, Denmark, Portugal, Finland, Greece, the Czech Republic and Austria. Partially peripheral countries, on the other hand, would include Poland, Estonia, Hungary, Luxembourg, Serbia, Slovenia, Romania, Latvia, Slovakia and Iceland. Countries that are definitely peripheral in terms of knowledge production in urban studies in the light of the survey are Bosnia and Herzegovina, Georgia, Bulgaria, Lithuania, Albania, Malta, Cyprus, Macedonia, Croatia, Azerbaijan, Turkey and Russia. To this list of peripheral countries, we should also add Armenia, Montenegro, Moldova and Ukraine – namely countries whose researchers are not authors of any article in the selected journals, and which, therefore, were not included in the calculation of the value of the synthetic index.

The presented results indicate that a clear division between the western and eastern part of Europe persists. The only country of the former "Eastern bloc" for which the value of the synthetic index is higher than the average is the Czech Republic. However, that country is almost at the end of the ranking of countries classified as partly central. On the other hand, among the countries with indicator values below the average, there are very few Western European countries, and those present are among the smallest (in terms of population): Luxembourg, Iceland and Malta. From a political perspective, con-

sidering the recent division of Europe into eastern and western blocs, this group could also include Cyprus and Turkey.

If we concentrate our attention on the countries of the former Eastern bloc, a clear distinction can be noted between countries that became members of the European Union in the first decade of the 21st century and others. Most of the former are in the group of partially peripheral countries, while only Bulgaria and Croatia are in the peripheral group. In turn, all the countries in the eastern part of the continent that do not belong to the European Union are in the last, peripheral group. Whether this difference is due to EU members' academic institutions having easier access to funding and network research or, if the casual relationship is the opposite, that countries with more developed academic research have accessed the EU before other countries in the region, it reminds us of the chicken and egg dilemma.

In contrast, the differences between the northern and southern parts of Western Europe, often singled out in research, are not as pronounced as we had expected. It is true that the Netherlands tops the ranking, followed very closely by Sweden and Germany (all these countries are usually classified as Northern Europe), but in the most central group we also find Spain and Italy. The position of these two Southern European countries confirms the results of previous studies on the geography of knowledge production (e.g. Choi, 2012; Maisonobe et al., 2017) indicating a shift in their position towards the global core in recent decades.

Unfortunately, the temporal scope of our study (only the second decade of the 21st century) does not allow us to analyse the shifts in the map of European urban studies. We might expect that, apart from the already mentioned ascendancy of Italy and Spain, there has been a relative increase in importance recorded in the case of urban studies conducted in several countries of Central and Eastern Europe, including the Czech Republic, which is a front-runner of that part of the continent. However, the data collected does not allow us to confirm this expectation, which for now must remain only a hypothesis.

Summary

The empirical results presented in this article confirm the rule, already known from analyses of other fields and disciplines, that the European centre of knowledge production in urban studies is located in a select number of Western European countries, while the role of most countries in Central and Eastern Europe is more peripheral. In the list of the ten most highly cited papers (over 150 citations in the Scopus database), published in the past decade in the journals which were analysed, there is only one article written by an author from the eastern part of the continent (from the Czech

Republic), published in collaboration with a British author. As predicted in table 1 of this article, the most important journals are published in the core regions. Content of individual articles in the journals has not been part of our analysis, but it is not difficult to note that most of concepts various authors refer to have originated from the core region's universities as well.

However, the expectation of a clear dominance of north-western European countries has not been confirmed – the countries with the highest centrality of urban studies include both countries from the northern (Netherlands, Sweden, Germany) and southern part of the continent (Spain, Italy). Our analysis covers too short a period to confirm this claim but, based on other studies cited in this article, it can be assumed that the relatively high position of Southern European countries is the result of relatively recent changes in the geography of knowledge production. The expected difference between the EU countries of Central and Eastern Europe and the others has been confirmed. Most of countries of the former group have been classified as partly peripheral (Czech Republic even as partly central) while all in the latter group belong to the peripheral countries.

The question arises, of course, about the reasons for the disparities described in the article, as well as changes in this area. A full discussion of these issues is beyond the scope of this article, but the impact of institutional reforms of the system of external evaluations of academic institutions carried out by national governments would be worth exploring. The incentives generated by these systems may significantly affect researchers' publication strategies, while the precise shape of these reforms (introduced over a similar period in many countries) may have a significant modifying effect (Cf. Aalbers & Rossi, 2006; Engels et al., 2012; Kulczycki et al., 2018; Kwiek, 2016). This issue is undoubtedly worth further in-depth research.

In our study, we relied on bibliometric analysis, which, besides its obvious advantages, such as measurability or unambiguity of results, also has numerous limitations. These shortcomings are especially emphasised when, in accordance with New Public Management, bibliometric indicators are used for external evaluation of scientific institutions (as mentioned in the previous paragraph). In such a situation, the cobra law formulated by Campbell (1979) comes into play, indicating that the values of our metrics will be distorted by the behaviour of authors focused on maximising the indicators under evaluation (Cf. also the criticism of the NPM-based system of science evaluation in: Mouritzen & Opstrup, 2020; Strathern, 2000; Van Thiel & Leeuw, 2002).[7] A detailed

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7   Campbell is very sceptical of performance measurement in general, not just in relation to science, noting that "the more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor" (Campbell, 1979, p. 85). Van Thiel and Leeuw (2002, p. 271) write that "When organizations or individuals have learned which aspects of performance are measured (and which are not), they can use that information to manipulate their assessments. For example, by primarily putting all the efforts into what is measured, performance will go up. However, overall there may be no actual improvement or perhaps even a deterioration of (other aspects of) performance". Mouritzen and Opstrup (2020, p. 103) refer to this phenomenon as "hitting the target, but missing the point". But our aim was not to assess the consequences of assessment reforms for academic institutions only to analyse their measurable consequences in terms of publication strategies.

discussion of this issue, in that case, is also beyond the scope of this paper. However, we should stress that we have not used our methodology to evaluate individual academic institutions or assign scores to individual journals. Despite awareness of the limitations of the methodology, it would be very difficult to replace it with alternative approaches in a broad quantitative study.

This article could also serve as a starting point for further work on the geography of knowledge production. One possible path is to include basic content and academic discourse analysis, since the assumption that the mere number of citations is a sufficient measure of the contribution to the development of the discipline is an obvious simplification. Another area of further research might include studies of networking (e.g. co-authorship) between authors from different countries. It would also be desirable to extend the temporal scope of the study, which would allow for an investigation of the scale of convergence in the centrality of European research institutions and, in particular, the pace of the expected gradual narrowing of the gap between Western and Central and Eastern European countries.

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Geografia produkcji wiedzy w zakresie europejskich studiów miejskich

Abstrakt: Produkcja wiedzy naukowej w zakresie studiów miejskich, a także wpływ tej wiedzy na innych badaczy nie są równomiernie rozmieszczone. Badania powstające w niektórych ośrodkach akademickich są częściej cytowane od innych. Artykuł śledzi przestrzenną koncentrację studiów miejskich w krajach europejskich w trakcie ostatniej dekady. Na poziomie teoretycznym odwołuje się do teorii rozwoju zależnego wyróżniającej obszary globalnego centrum, peryferii i półperyferii, stosując ją do powstawania wiedzy akademickiej.

W oparciu o dane bibliometryczne artykułów z wybranych renomowanych czasopism międzynarodowych tekst ten konstruuje syntetyczny wskaźnik centralności produkcji wiedzy naukowej w zakresie studiów miejskich tworzonej w ośrodkach akademickich poszczególnych krajów. W szczególności zwraca uwagę na peryferyjną lub półperyferyjną pozycję niemal wszystkich krajów Europy Środkowo-Wschodniej.

Słowa kluczowe: studia miejskie; produkcja wiedzy naukowej; relacje centrum – peryferia; Europa

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